CUSTOMER NO.: 24498
Ser. No. 10/078,778
FINAL Office Action dated: 09/10/08
Response dated: 11/20/08

PATENT
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Remarks/Arguments

Claims 1, 3 – 9 and 11 – 16 are pending, claims 1, 3 – 9 and 11 – 16 are rejected under Double Patenting. In this response, no claims are amended.

DOUBLE PATENTING

Examiner has rejected claims 1, 3 – 9 and 11 – 16 on the grounds of non-statutory obviousness type double patenting, citing US 7,119,774 (Willis) and US 6,384,873 (Rumreich). In the final rejection, the Examiner cited the Willis et al. patent (US 7,119,774), as reading on the present application. The Examiner states:

> "Willis et al. teaches of asymmetrically weighted taps (Fig. 3, item 22, claim 24)."

In the present application on page 8, lines 15 – 19, a symmetric low pass filter is described:

> "Referring to FIG. 4, the low pass filter 17 and delay circuit 16 are shown in greater detail. FIG. 4 shows a symmetric 3-tap filter with coefficients 3/16, 10/16 and 3/16 all preceded by a delay of 3 sample periods using delay circuit 16. The low pass filter 17 also comprises sample delays 64, 66, as well as multiplier circuits 68, 70, and 72, as shown to appropriately weight the coefficients on each tap."

Note that the filter described in the Willis patent in figure 3 and in claim 24 is characterized as having tap weights of 1/4,2/4,1/4.This describes a symmetrically weighted low pass filter with linear phase. Please note that the filter weighting coefficients exhibit symmetric values about the center tap, the first tap weight (1/4) and the final tap

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weight (1/4) being symmetrically disposed about a center tap weight (2/4). As is well known, linear phase filters exhibit equal rise and fall times. Please see page 7 lines 12 – 15:

"The split low pass filter arrangement 25 also comprises yet another low pass filter 17 and another delay circuit 16, wherein this filter is usually selected to be symmetrical with a linear phase response."

Turn now to the present application on page 7, line 22 – page 8, line 4, where an asymmetrically weighted filter is described:

"FIG. 2 shows an asymmetric 5-tap filter with non-ascending coefficients 8/16, 4/16, 2/16, 1/16, and 1/16 all preceded by a delay of 4 sample periods using delay circuit 18. Non-ascending coefficients are useful in obtaining a non-decreasing response on a leading edge of a pulse. The sample delays (18, 32, 34, 36, and 37) illustrated in FIG. 2 (as well as those shown in FIGs. 3 & 4) all use Z transform notation, wherein Z^{-4} is a 4 clock latch delay, and Z^{-1} is a 1 clock delay, for example. The low pass filter further preferably comprises multiplier circuits 31, 33, and 35 to appropriately weight the coefficients on each tap."

And on page 8, lines 7 – 12, where another asymmetrically weighted filter is described:

"Referring to FIG. 3, the low pass filter 20 is shown in greater detail. FIG. 3 shows an asymmetric 5-tap filter with non-descending coefficients 1/16, 1/16, 2/16, 4/16 and 8/16. The non-descending coefficients are particularly useful in obtaining a non-increasing response from a trailing edge of a pulse. The low pass

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filter 20 also comprises sample delays 42, 44, 46, as well as multiplier circuits 52, 50, and 49 as shown to appropriately weight the coefficients on each tap."

Note that the tap coefficient weights for the filters in figures 2 and 3 show no symmetry. The filter in figure 2 has tap weights of 8/16, 4/16, 2/16, 1/16; 1/16. Note that the tap weight coefficients of the first two taps of this asymmetric filter (8/16, 4/16) have asymmetric values about the center tap weight (2/16), as compared to the final two tap weights (1/16, 1/16). The filter in figure 3 has tap weights of 1/16, 1/16, 2/16, 4/16, 8/16 which also show no symmetry about the center tap weight value. The behavior of such asymmetrically weighted filters is described on page 7 lines 9 – 12:

"...low pass filter 19 preceded by a delay circuit 18 for acting on a dark going signal or transient to lengthen its fall time and comprises another low pass filter 20 that acts ahead of a bright going signal or transient to anticipate the transient and start the signal going bright earlier."

In view of the preceding comments, Applicant respectfully asserts the Willis patent does not read on the independent claims. Applicant respectfully requests the Examiner to reconsider the final rejection and that the double patenting rejection be withdrawn. Dependent claims 3-8, 11, 12, 14 and 16, being properly drawn to independent claims, believed to be allowable, are also allowable.

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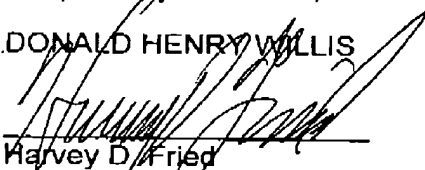FINAL Office Action dated: 09/10/08
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Having fully addressed the Examiner's objections and rejections it is believed that, in view of the preceding remarks, this application stands in condition for allowance. Accordingly then, reconsideration and allowance are respectfully solicited. If, however, the Examiner is of the opinion that such action cannot be taken, the Examiner is invited to contact the Applicant's attorney at (609) 734-6811, so that a mutually convenient date and time for a telephonic interview may be scheduled.

No additional fee is believed due. However, if an additional fee is due, please charge the additional fee to Deposit Account No. 07-0832.

Respectfully submitted,

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